

REMARKS

Applicant appreciates the consideration of the response to the previous Office Action. The applicant has thoroughly studied the Office Action of March 4, 2010 and has submitted this amendment in response to that Office Action. Reconsideration of this application, as amended, is earnestly requested.

Claims 1 and 15 are amended. Claim 34 is cancelled without prejudice and claim 2 previously has been cancelled without prejudice. Claims 1 and 3-33 remain pending in the application with claims 1 and 15 being the only independent claims.

Claims 1, 3-25 and 27-34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Armstrong (US 5,464,891) in view of Meriaz (US 2002/0113776) and Kim (US 6,424,335), and claim 26 as being unpatentable over Armstrong in view of Meriaz and Kim, and further in view of Yokoji (US 6,909,422). These rejections are respectfully traversed.

103 Rejections

The applicant amends claims 1 and 15 to more clearly claim the invention and cancels claim 34. No new material is included. The amendments find support in the application as originally filed at, for example, at line 11-15 on page 15 and element 104 in FIGs. 1e through 1i. Claims 1 and 15 now recite, in part, "a multiplexer for combining the signals from the first user interface element and from the displacement sensor and the second user interface element into a common output signal, whereas the common output signal is capable of being de-multiplexed to provide separate parameters for simultaneously controlling different functions by manipulating the first user interface element and the second user interface element."

In rejecting claims 1, and 15, the Examiner indicated that "Armstrong fails to teach a first user interface configured as claimed or a second outgoing signal," but that Meriaz teaches this limitation (O.A., p. 3). The Examiner also indicated

that "Armstrong in view of Meriaz further teaches wherein the signal circuitry producing a multiplexed outgoing signal combining the signals from the first user interface element and from the displacement sensor." (O.A., p. 3). The Examiner further states that "Armstrong in view of Meriaz fails to teach wherein the first and second user interface elements simultaneously provide separate parameters for controlling different functions," ((O.A., p. 4), but that Kim provides this limitation.

The applicant respectfully disagrees for the following reasons.

The Amrstrong reference should not be combined with the Meriaz and Kim references

Armstrong discloses a hand manipulated controller having a trackball for controlling or manipulating computer graphic images (col. 1: 19-17). The trackball is manipulated to send "information describing rotation of the trackball about three mutually perpendicular axes" (col. 2: 44-46). In describing his invention, Armstrong states "Disadvantages ... I believe I have inventively overcome with present invention, include the requirement that the trackball housing be moved along a surface in order to input linear moment [sic] information" (col. 1: 42-46) and "Unlike the prior art, such as typical mouse devices which require travel of the ball physically over a surface to activate sensors, and the surface area requirement might be great, the present invention requires no significant physical movement along a surface." (col. 4: 15-19).

Meriaz and Kim teach a traditional mouse that requires movement over a surface to control a computer pointer. Combining Meriaz and Kim with Armstrong (which teaches that trackball pointing devices do not require movement over a surface) renders the prior art inventions being modified unsatisfactory for their intended purpose, and Armstrong should not be combined with Meriaz and Kim. See, MPEP 2143.01.

The Examiner has responded by stating with respect to Armstrong FIG. 8, "[t]he bottom of the trackball merely rests upon the table when in use" implying that the trackball also acts as a conventional mouse ball. See, O.A., p. 10.

The applicant disagrees with the Examiner's interpretation of FIG. 8. Each of FIGS. 4, 8, 9, and 10 shows a different mounting cradle or arrangement for the trackball. Each of the embodiments described by Armstrong (a tray in a computer (FIG. 4), a housing structured to rest on a support surface (FIG. 8), a hand held housing (FIG. 9), and a conventional keyboard (FIG. 10) do not require the movement of the housing. Specifically, FIG. 8 shows a "housing 10 structured specifically for carrying carriage 14 and trackball 12, and one which is structured to rest upon a support surface such as a table or desk when utilized." See, col. 12: 9-12. Because Armstrong's purpose is to describe a trackball pointing device that does not require movement on a surface to control a pointer, combining Armstrong with references describing pointing devices that require movement on a surface to control a pointer render those references unsatisfactory for their intended purpose.

Armstrong should not be combined with Meriaz and Kim.

None of Armstrong, Meriaz, nor Kim teaches a multiplexer

Wikipedia defines multiplexing as a process where multiple analog message signals or digital data streams are combined into one signal over a shared medium, and that a device that performs the multiplexing is called a multiplexer. (See, <http://en.wikipedia.org/wiki/Multiplexing>, accessed July 4, 2010.)

Armstrong's device has only a single trackball, and no multiplexer is present to communicate the trackball signal to the computer.

Meriaz paragraph [0007] states "[a] cable is connected to a computer input port for transmission of electrical signals to a central processing unit." Paragraph [0012] further states that "[c]able 18 is connected through a rear opening in the

housing 12 to internally mounted x-y coordinate sensors, with multiple conductors as required to translate input signals to a computer's central processing unit (CPU)." Without some teaching that the input signals from Merianz's trackball and bottom ball are combined in some manner, Merianz cannot teach multiplexing. In fact, using multiple conductors to transmit the input signals teach against a multiplexer.

Alternatively the switch [switch 20] may be used to select one or the other movement means of the mouse. See, paragraph [0016]. Switch 20 exclusively controls the transmission of the input signals from either the track ball or the bottom ball and precludes the simultaneous transmission of the input signals from both the trackball and the bottom ball. A selector switch is not a multiplexer.

As Meriaz states in the abstract, the "manipulation of either said trackball or said bottom ball is effective to direct movement of a cursor on a computer monitor screen for signal inputs to the central processing unit." The signals from the mouse ball and the trackball are used for a single purpose, to control a cursor. Since only the mouse ball signal or the trackball signal is applied to the conductor to the computer and the applied signal is used only to control the cursor, the mouse ball signal and the trackball signals are not multiplexed to a common output signal. The mouse ball signal and the trackball signal are selected and are not multiplexed.

The examiner argues that the use of a "multiplexer" in the independent claims is a narrow definition of multiplexer, and points out that one of ordinary skill in the art would understand "multiplexer" in the context of signal transmission is merely a device to select a signal (O.A. p. 11). The applicant respectfully disagrees. Multiplexing is more than just selecting a signal. Multiplexing involves placing two or more signals on a single transmission channel with the ability to separate the two or more signals at the receiving end of the transmission channel.

Meriaz only selects one of two signals to place on the transmission channel but does not teach placing two or more signals on a single transmission channel with the ability to separate the two or more signals at the receiving end of the transmission channel. Meriaz does not teach a multiplexer.

Kim is directed to a detachable infrared input device comprising a mouse and a touchpad, and the detached input device may be used as **either** a mouse or as a touch pad (*emphasis added*). See, col. 4: 37-38 and col.16: 54-54.

Kim recognizes the problem of selecting whether the cursor controlling input or the non-cursor controlling input is transmitted to the computer, ("However, in order to use the infrared input device 100 to input non-cursor related information [i.e., information from the touchpad], the computer must distinguish between cursor control inputs and non-cursor control inputs." See, col. 18: 30-33.) In order to solve this problem, Kim teaches that only one of the mouse or touch is active at a time to transmit cursor position information to the computer. This is accomplished by toggling the two different inputs to the infrared transmitter ("Circuits which may be used to **toggle** between different input devices ... are well known in the art. (*emphasis added*)" See, col. 8: 10-12.)

Because Kim teaches that only one of the touchpad and mouse may be active at a time, the mouse and the touch pad are not multiplexed as required by independent claims 1 and 15. The signals from the mouse and touch pad are toggled or selected. Further, since the signals from the mouse and touch pad are toggled, they cannot simultaneously control different functions as required by the independent claims.

For at least these reasons, Kim also does not teach a multiplexer or the simultaneously controlling different functions as required by the independent claims.

None of Armstrong, Meriaz, nor Kim teaches a multiplexer or simultaneously controlling different functions from an input device as required by the independent claims. Therefore, the references, singly or in some combination, do not teach all the limitations of the independent claims.

Claims in Condition for Allowance

As set forth in MPEP 2143, to show a *prima facie* case for obviousness, all the prior art references, either individually or combined, must teach all the claim limitations. None of Armstrong, Meriaz, and Kim, or any combination thereof, teaches “a multiplexer for combining the signals ... into a common output signal, whereas the common output signal is capable of being de-multiplexed to provide separate parameters for simultaneously controlling different functions....” Also, as argued *supra*, there is no motivation to combine Armstrong with Meriaz and Kim as required by the *prima facie* case for obviousness. Applicant submits that a *prima facie* case for obviousness has not been shown and that claims 1 and 15 are patentable over the cited prior art. Additionally, claims 3-14 and 16-33 are patentable at least by virtue of dependence upon a patentable independent claim.

CONCLUSION

In view of the above amendments and remarks, applicant respectfully requests reconsideration and withdrawal of the rejections, and an early indication of the allowance of the claims. Applicant believes the claims are in condition for allowance and respectfully solicit favorable action.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein; and no amendment made was for the purpose of narrowing the scope of any claim, unless applicant has argued herein that such amendment was made to distinguish over a particular reference or combination of references.

If any points remain at issue that the Examiner feels may be best resolved through a telephone interview, the Examiner is kindly invited to contact the undersigned by telephone at (909) 621-2059 or by email at cwschmoyer@yahoo.com.

Respectfully submitted,

Date: July 6, 2010

By: _____

A handwritten signature in black ink, appearing to read "Craig W. Schmoyer", written over a horizontal line.

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